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| 10/062,503 | 02/05/2002 | Hideki Murayama | | 4857 |

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EXAMINER

THAI, TUAN V

ART UNIT

PAPER NUMBER

2186

DATE MAILED: 04/20/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

Office Action Summary

Application No.

10/062,503

Applicant(s)

MURAYAMA ET AL.

Examiner

Tuan V. Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-46 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-28, 30-35 and 37-46 is/are rejected.
- 7) ☒ Claim(s) 29 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/227,740.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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Part III DETAILED ACTION

Response to Amendment

1. This office action is in response to Applicant's communication filed March 04, 2004. This amendment has been entered and carefully considered. Claims 21-46 remain pending in the application. Claims 1-20 have been cancelled. Claims 41-46 are newly added.
2. Applicant's arguments with respect to claims 21-46 have been fully considered but they are not deemed to be persuasive.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 21-28, 30-35 and 37-46 are rejected under 35 U.S.C. § 102(e) as being anticipated by Ninomiya (USPN: 5,764,968);

As per claims 21, 26 and 33; NiNomiya teaches the invention as claimed including a computer system supporting a virtual memory system comprising a processor 11 (e.g. see figure 1); a first main memory which said processor 11 accesses is taught as memory 13 comprises system memory 131 mounted in advance on the system board, and an expanded memory 132 mounted by the user as needed (e.g. see figure 1, column 4, lines 22 et seq.); a nonvolatile storage storing configuration information regarding a second main memory to be hot plugged (e.g. see figure 2, column 7, lines 22 et seq.); the processor acquiring the first and second memory information from the non-volatile storage and mapping the first memory based on the first and second memory information (e.g. see column 3, lines 47 et seq.; column 4, lines 59 et seq.; column 9, lines 54 et seq.);

As per claims 22 and 24, wherein the processor generating first logical-physical address translating table for the first memory ... assigning a region to store a second logical-physical address translating table for the second memory in the first memory is embedded in Ninomiya and being taught to the extent that it is being claimed since data being exchanged among memory 131 and modules on the docking station 30 (fig. 2); translation of addresses must occur for data matching; in addition, Ninomiya

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further discloses system memory 131 having different regions/modules and wherein the processor accesses the first main memory using first page structure (e.g. see column 4, lines 20 et seq.);

As per claim 23, different pages structure associated with different memory modules having at least one bank, and the untranslatable/translatable region being corresponded to the used/unused RAS lines for unused/used banks (e.g. see column 9, lines 29 bridging column 10, line 30);

As per claim 25, Ninomiya clearly discloses the nonvolatile memory 34 is an EEPROM (e.g. see figure 2; column 7, lines 23 et seq.);

As per claim 27, Ninomiya discloses the non-translated/translatable region being corresponded to the used/unused RAS lines for unused/used banks (e.g. see column 9, lines 29 bridging column 10, line 30);

As per claim 28; Ninomiya discloses the system BIOS checks the size of banks connected to the RAS lines by write/read comparison or the like to detect unused banks (e.g. see column 10, lines 23 et seq.);

As per claim 30, Ninomiya discloses the non-address translated region being corresponded to the unused RAS lines for unused/used banks wherein the unused RAS lines are determined by the number of RAS lines prepared for the system memory 131 and the expanded memory 132 and the bank structure of the actually

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mounted memory module (e.g. see column 9, lines 29 bridging column 10, line 30);

As per claim 31, Ninomiya clearly discloses the nonvolatile memory 34 is an EEPROM (e.g. see figure 2; column 7, lines 23 et seq.);

As per claim 32, the TLB within the processor is embedded in the system of Ninomiya since data being exchanged among memory 131 and modules on the docking station 30 (fig. 2); translation of addresses must occur for data matching; in addition, Ninomiya further discloses system memory =L31 having different regions/modules and wherein the processor accesses the first main memory using first page structure (e.g. see column 4, lines 20 et seq.);

As per claims 34-35 and 37-40, they encompass the same scope of invention as to that of claims 27-28 and 30-32; the claims are therefore rejected for the same reasons as being set forth above; noting that the top priority region being the same as the nonaddress translated region and is equivalent to the unused RAS lines for unused/used banks wherein the unused RAS lines are determined by the number of RAS lines prepared for the system memory 131 and the expanded memory 132 and the bank structure of the actually mounted memory module (e.g. see column 9, lines 29 bridging column 10, line 30);

As per claims 41, 43 and 45, the further limitation of wherein the non-volatile storage stores the second memory

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information preliminary before the second memory is hot-plugged is taught by Ninomiya; for example, Ninomiya clearly discloses that EEPROM 43 stores hot insertion information (information necessary for plug and play) such as the attributes of PC cards mounted in the expansion slots of the card dock 40. The hot insertion information is read from the EEPROM 43 by the I/O control gate array 23 through the I2C bus 4 under the control of the system BIOS of the BIOS ROM 19 when the computer main body and the card dock 40 are docked (e.g. see column 7, lines 45-52)

As per claim 42, 44 and 46; Ninomiya further discloses wherein the non-volatile storage stores the second memory information when the computer main body or the card dock 40 is powered on (e.g. see column 7, lines 52-53).

Allowable subject matter

5. Claims 29 and 36 are objected to as being dependent upon a rejected based claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. As per remark, Applicant's counsel asserts that the computer discloses by Ninomiya does not have information for hot-insertion until the device is hot-inserted... Further, the office action relies upon the disclosure in Ninomiya of an EEPROM 34 as the

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claimed non-volatile storage storing configuration information regarding a second main memory to be hot-plugged, however, the EEPROM 34 is not equivalent to the non-volatile memory for storing configuration information claimed by Applicants (amendment's page 9, second paragraph).

Examiner wholeheartly disagrees with Applicant's counsel, and would like to emphasize that the information for hot-insertion is available in Ninomiya, such as information necessary for plug and play, this information is clearly and known to be available to the system prior to hot-inserted, for example, attributes or information of the PC cards mounted in the expansion slots of the card dock 40 (e.g. column 7, lines 46 et seq.; Examiner would like to further emphasize that EEPROM 34 (or EEPROM 43) is clearly equivalent to the claimed non-volatile storage storing configuration information regarding a second main memory to be hot-plugged, since Ninomiya clearly teaches EEPROM 43 stores hot insertion information required for plug and play protocol of the PC cards mounted in the expansion slots (e.g. see column 7, lines 22-26 and lines 45-48).

7. Applicant's arguments filed March 04, 2004 have been fully considered but they are not deemed to be persuasive.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the

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extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (703) 305-3842. The examiner can normally be reached on from 6:30 A.M. to 4:00 P.M..

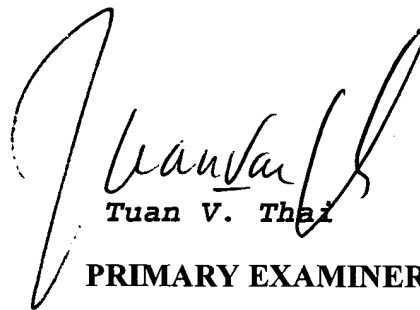
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (703)-305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR)

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system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVT/April 14, 2004



Tuan V. Thai
PRIMARY EXAMINER
Group 2100